List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 15   (Cancelled).

16. (Currently amended)   A method for monitoring the functioning of <u>a plurality of</u> sensors which measure and monitor the state parameters of liquids or gases, comprising the steps of:

placing <u>at least one of</u> the <u>plurality of sensors</u> ~~sensor~~ in a test state at time intervals;

registering test parameters at time intervals or at time intervals during the course of registering measured values;

storing the registered test parameters;

evaluating a backward-looking chronological development of the stored test parameters in order to perform functional monitoring;

predicting from said evaluations the development of sensor behavior to be expected in the future; and

obtaining thereby information concerning the duration of the remaining disturbance-free operation of ~~the sensor~~ <u>said at least one of the plurality of sensors</u> .

17. (Currently amended)   The method as defined in claim 16, wherein:

said evaluation step is conducted using non-linear interpolation methods, in order to obtain a function describing the ~~sensor~~ behavior <u>of said at least one of the sensors</u>.

18. (Currently Amended)   The method as defined in claim 16, wherein:

a function is specified and used for a particular sensor <u>of said at least one of the sensors</u>, which reproduces the experience-based behavior of the particular sensor.

19. (Previously presented)   The method as defined in claim 18, wherein:

the function involves a polynomial function.

20. (Previously presented) The method as defined in claim 16, wherein:
a first predictive value is determined for the wear limit.

21. (Currently amended) The method as defined in claim 16, further comprising the step of:
testing whether the wear limit of the sensor <u>of said at least one sensor</u> will be reached before the next registering of test parameters.

22. (Previously presented) The method as defined in claim 16, further comprising the step of:
testing whether a predictively obtained value of the text parameter lies within a warning range this side of the wear limit as defined at this time.

23. (Previously presented) The method as defined in claim 16, further comprising the step of:
determining and issuing and/or displaying initiating measures for maintenance on the basis of the information concerning the duration of the remaining, disturbance-free operation.

24. (Currently Amended) The method as defined in claim 16, further comprising the step of:
determining and issuing a predictive point in time for replacement of the sensor <u>of said at least one sensor</u> on the basis of the information concerning the duration of the remaining, disturbance-free operation.

25. (Previously presented) The method as defined in claim 16, wherein:
as a test parameter, the slope of the sensor signal, or signals is registered and evaluated.

26. (Previously presented) The method as defined in claim 16, wherein:
as a test parameter, the zero point of the sensor signal, or signals is registered and evaluated.

27. (Previously presented) The method as defined in claim 16, wherein:

as a test parameter, the internal resistance of an electrode is registered and evaluated.

28. (Currently amended) The method as defined in claim 16, wherein:

as a test parameter, the change of the dynamic behavior of signals produced by the sensor itself of said at least one sensor is registered and evaluated.

29. (Previously presented) The method as defined in claim 16, wherein:

a plurality of different test parameters are registered and evaluated.

30. (Currently amended) The method as defined in claim 16, further comprising the step of:

obtaining a sensor specific, basic data from a storage arrangement of the sensor of said at least one sensor or the measured value transmitter over the internet or over update media, for the evaluation.